

CLAIMS

WHAT IS CLAIMED IS:

1. A portable computer configurable in a tablet configuration, a laptop configuration, and a closed configuration, said portable computer comprising:

5           a base unit having a primary input device and a bottom surface;

          a display unit having a display device and a back surface, said display unit movably attached to said base unit such that said primary input device is between said back surface of said display unit and said bottom surface of said base unit when said portable computer is in said tablet configuration and such that said

10          primary input device and said display device are between said back surface of said display unit and said bottom surface of said base unit when said portable computer is in said closed configuration; and

          a latching assembly capable of being selectively changed from an open state to a closed state, said latching assembly having a first portion coupled to said

15          display unit and a second portion coupled to said base unit, wherein said latching assembly is changed to said closed state to maintain said portable computer in one of said tablet configuration and said closed configuration.

2. The portable computer according to claim 1, wherein said primary input device is one of a keyboard, a mouse, and a pointing device.

3. The portable computer according to claim 1, wherein said display device may be used as a secondary input device when said portable computer is in said tablet configuration.
4. The portable computer according to claim 3, wherein data may be input using said display device based on the selection of an area of the display device.
5. The portable computer according to claim 4, further including a stylus.
6. The portable computer according to claim 4, further including circuitry configured to recognize the selection of areas of the display device as handwriting.
7. The portable computer according to claim 1, said latching assembly further including a latching arm having a first projection and a latch body having a first cavity adapted to receive said first projection to maintain said portable computer in one of said closed configuration and said tablet configuration.
8. The portable computer according to claim 7, said latching arm further including a second projection, wherein said first cavity is also adapted to receive said second projection, and further wherein said first projection is received by said first cavity to maintain said portable computer in said closed configuration, and further wherein said second projection is received by said first cavity to maintain said portable computer in said tablet configuration.
9. The portable computer according to claim 7, said latching arm further including a second projection and said latch body further including a second cavity adapted to

receive said second projection, wherein said first projection is received by said first cavity to maintain said portable computer in said closed configuration, and further wherein said second projection is received by said second cavity to maintain said portable computer in said tablet configuration.

5 10. A portable computer configurable in a tablet configuration, a laptop configuration, and a closed configuration, said portable computer comprising:

a display unit having a display device and a back surface;

a base unit having a primary input device and a bottom surface;

10 a latching assembly to maintain said portable computer in one of said closed configuration and said tablet configuration; and

a hinging assembly coupling said display unit to said base unit, said hinging assembly having a first hinge with a first axis of rotation and a second hinge with a second axis of rotation, wherein

15 one of said first hinge and said second hinge is rotated to reconfigure said portable computer between said closed configuration and said laptop configuration, and

said first hinge and said second hinge are rotated to reconfigure said portable computer between said closed configuration and said tablet configuration.

20 11. The portable computer according to claim 10, wherein said back surface of said display unit is positioned over said primary input device of said base unit when said portable computer is in said tablet mode.

12. The portable computer according to claim 10, wherein said primary input device and said display device are between said back surface of said display unit and said bottom surface of said base unit when said portable computer is in said closed configuration,

5 13. The portable computer according to claim 10, said latching assembly further including a latching arm having a first projection and a latch body having a first cavity adapted to receive said first projection to maintain said portable computer in one of said closed configuration and said tablet configuration.

10 14. The portable computer according to claim 13, said latching arm further including a second projection, wherein said first cavity is also adapted to receive said second projection, and further wherein said first projection is received by said first cavity to maintain said portable computer in said closed configuration, and further wherein said second projection is received by said first cavity to maintain said portable computer in said tablet configuration.

15 15. The portable computer according to claim 13, said latching arm further including a second projection and said latch body further including a second cavity adapted to receive said second projection, wherein said first projection is received by said first cavity to maintain said portable computer in said closed configuration, and further wherein said second projection is received by said second cavity to maintain said portable computer in said tablet configuration.

20 16. The portable computer according to claim 10, wherein the angle of rotation of said display unit relative to said base unit achievable by rotating only said first

hinge is at a maximum when said portable computer is in said laptop configuration.

17. The portable computer according to claim 10, wherein one of said first hinge and said second hinge has a limited range of rotation such that an upper limit of said range of rotation is reached when said portable computer is in the laptop configuration.

18. The portable computer according to claim 10, wherein said first axis of rotation and said second axis of rotation are perpendicular.

19. The portable computer according to claim 18, wherein rotation of said first hinge causes said display unit to tilt with respect to said base unit and rotation of said second hinge causes said display unit to swivel with respect to said base unit.

20. The portable computer according to claim 19, wherein said display unit has a first orientation when said portable computer is in said laptop configuration, and further wherein said second hinge operates in a range of rotation having an upper limit, such that said display unit has a second orientation opposite to said first orientation when said second hinge is rotated to said upper limit of said range of rotation of said second hinge.

21. The portable computer according to claim 18, wherein said first hinge has a range of rotation with an upper limit of 90 degrees.

22. The portable computer according to claim 18, further including a shaft, and wherein said second hinge is a ball bearing having a first race coupled to said base

unit and a second race coupled to said shaft, and further wherein said shaft is coupled to a portion of said first hinge.

23. The portable computer according to claim 22, further including a cable for transmitting electronic signals, said cable having a first end coupled to said base unit and a second end coupled to said display unit, wherein a portion of said cable passes through said shaft.

24. The portable computer according to claim 18, further including a locking pin selectively insertable into a first cavity to prevent said second hinge from rotating.

25. The portable computer according to claim 24, wherein said locking pin is inserted into said first cavity when said portable computer is in said laptop configuration.

26. The portable computer according to claim 24, further including a second cavity.

27. The portable computer according to claim 26, wherein said display unit has a first orientation when said portable computer is in said laptop configuration, wherein said second hinge operates in a range of rotation having an upper limit, wherein said display unit has a second orientation opposite to said first orientation when said second hinge is rotated to said upper limit of said range of rotation of said second hinge, and further wherein said locking pin is inserted in said second cavity when said display unit is in said second orientation.

28. The portable computer according to claim 24, wherein said locking pin is inserted into said first cavity by movement of a mechanical actuator.

29. The portable computer according to claim 28, wherein said mechanical actuator is one of a lever arm and a push button.
30. The portable computer according to claim 18, said latching assembly further including a latching arm having a first projection and a latch body having a first cavity adapted to receive said first projection to maintain said portable computer in one of said closed configuration and said tablet configuration.
31. The portable computer according to claim 30, said latching arm further including a second projection, wherein said first cavity is also adapted to receive said second projection, and further wherein said first projection is received by said first cavity to maintain said portable computer in said closed configuration, and further wherein said second projection is received by said first cavity to maintain said portable computer in said tablet configuration.
32. The portable computer according to claim 30, said latching arm further including a second projection and said latch body further including a second cavity adapted to receive said second projection, wherein said first projection is received by said first cavity to maintain said portable computer in said closed configuration, and further wherein said second projection is received by said second cavity to maintain said portable computer in said tablet configuration.
33. A method for reconfiguring a portable computer among a tablet configuration, a laptop configuration, and a closed configuration, wherein said display device is contained in a display unit and said primary input device is contained in a base unit, said method comprising:

when said portable computer is in said closed configuration such that said display device and said primary input device are contained between a back surface of said display unit and a bottom surface of said base unit, rotating a first hinge to tilt said display unit relative to said base unit until said portable computer is in said laptop configuration;

rotating a second hinge when said portable computer is in said laptop configuration to swivel said display unit relative to said base unit;

rotating said first hinge after said second hinge has been rotated to place said portable computer in said tablet configuration; and

closing a latching assembly when said portable computer is in said tablet configuration to couple said base unit to said display unit.

34. The method according to claim 33, further including opening said latching assembly when said portable computer is in said closed configuration.

35. The method according to claim 33, wherein rotating said second hinge includes removing a locking pin from a cavity when said portable computer is in said laptop configuration.

36. The method according to claim 33, wherein rotating said second hinge includes inserting a locking pin into a cavity after said display unit has been swiveled relative to said base unit.

37. The method according to claim 36, wherein said first hinge is rotated to tilt said display unit until said display unit is perpendicular to said base unit.